California Aqueduct

Water provided by the Carlsbad Municipal Water District meets all 2010 state and federal drinking water standards. This report provides detailed water quality test results and explains where Carlsbad's water comes from.

Where our water comes from

The Carlsbad Municipal Water District currently imports all of its drinking water supply. There are no local sources of drinking water. The imported water supply begins hundreds of miles away as snow melt or rainfall that flows into rivers. The two main sources of water are from the Colorado River, transported through the Colorado River Aqueduct and from Northern California, transported through the California Aqueduct (also known as the State Water Project.)

Water from these sources is imported and treated by the Metropolitan Water District of Southern California at its Lake Skinner Treatment Plant in Riverside County and by the San Diego County Water Authority at its Twin Oaks Valley Water Treatment Plant in San Marcos. After rigorous treatment, the water travels through San Diego County Water Authority owned pipelines and is purchased and distributed by the Carlsbad Municipal Water District to its customers.

Conserve a precious resource

The Carlsbad Municipal Water District eased some of the mandatory water use restrictions in May due to replenished reservoirs from winter rains and ample mountain snowpack. The San Diego region still faces long-term water supply challenges, and wise water use remains a way of life. Certain water conservation rules are always in effect for Carlsbad water customers. Visit **www.carlsbadca.gov/water** for current restrictions and water saving tips.

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CARLSBAD
Municipal Water District

5950 El Camino Real
Carlsbad, CA 92008
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Water Quality
Report 2011

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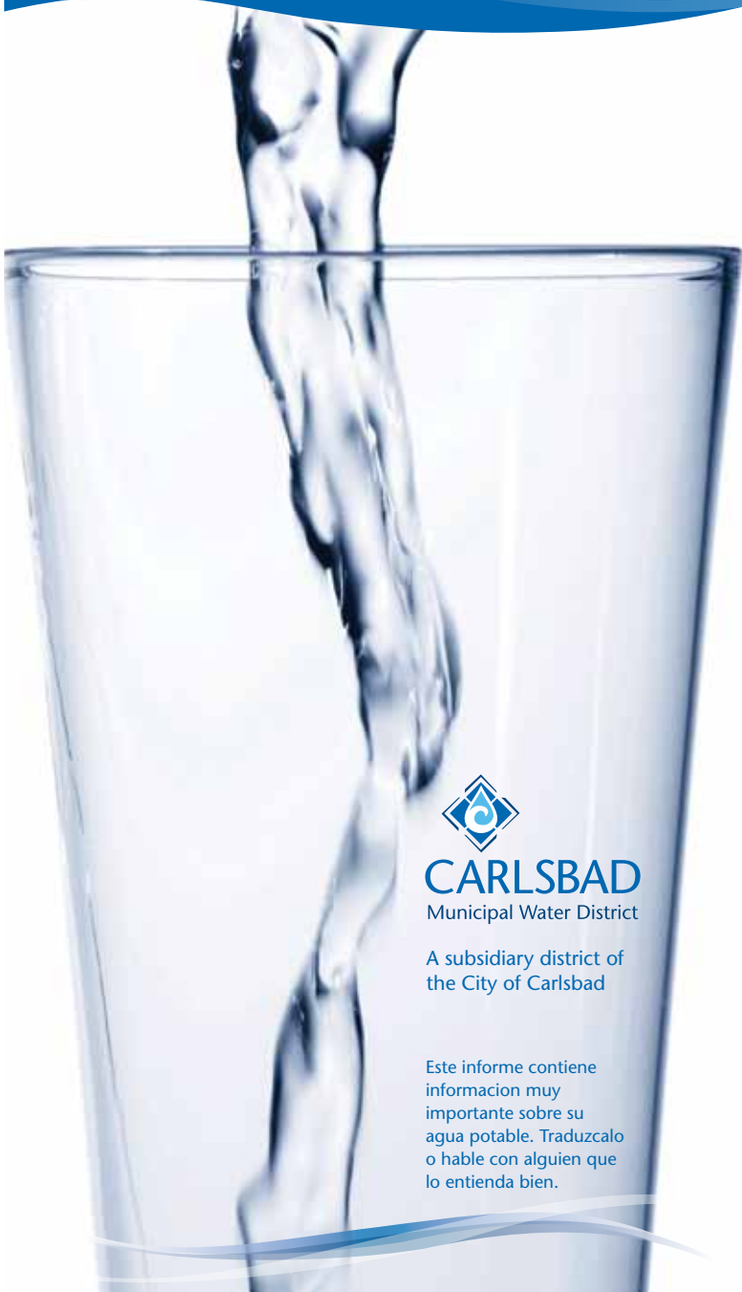
Water Quality Report 2011



CARLSBAD
Municipal Water District

A subsidiary district of the City of Carlsbad

Este informe contiene informacion muy importante sobre su agua potable. Traduzcalo o hable con alguien que lo entienda bien.

Sources

Colorado River

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. Environmental Protection Agency's Safe Drinking Water Hotline at **800-426-4791**.

Contaminants that might be present in source water include:

- Microbial contaminants, such as viruses and bacteria, that can come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.
- Inorganic contaminants, such as salts and metals, that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.
- Pesticides and herbicides, that can come from a variety of sources such as agriculture, urban stormwater runoff and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application and septic systems.
- Radioactive contaminants, that can be naturally occurring or be the result of oil and gas production and mining activities.

Drinking water regulations

To ensure tap water is safe to drink, the U.S. Environmental Protection Agency and the California Department of Public Health prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Department of Public Health regulations also establish limits for contaminants in bottled water that must provide the same protection for public health.

Special note:

Some people might be more vulnerable to contaminants in drinking water than the general population.

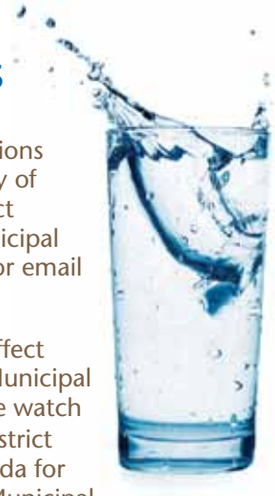
Some people might be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly persons, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. U.S. Environmental Protection Agency/ Centers for Disease Control and prevention guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at **800-426-4791**.

Source water assessment

The Metropolitan Water District of Southern California completed its source water assessment of its Colorado River and State Water Project supplies in December 2002. Colorado River supplies are considered to be most vulnerable to contamination from recreation, urban/ stormwater runoff, increasing urbanization in the watershed and wastewater. State Water Project supplies are considered to be most vulnerable to contamination from urban/ stormwater runoff, wildlife, agriculture, recreation and wastewater. A summary of the assessment can be obtained by calling the Metropolitan Water District at **213-217-6850**.

Storm drain

How to contact us



This report covers testing for contaminants in 2010. For questions or concerns regarding the quality of Carlsbad's drinking water, contact Jase Warner at the Carlsbad Municipal Water District at **760-438-2722** or email **water@carlsbadca.gov**.

To participate in decisions that affect drinking water in the Carlsbad Municipal Water District service area, please watch the Carlsbad Municipal Water District Board of Directors meeting agenda for drinking water items. Carlsbad Municipal Water District Board meetings are held in conjunction with the Carlsbad City Council on an as needed basis on Tuesday evenings. Agendas may be obtained at **www.carlsbadca.gov** or Carlsbad City Hall, 1200 Carlsbad Village Drive. Comments regarding drinking water are always welcome.

This report is mailed to all Carlsbad Municipal Water District customers and is available at most city facilities. This report may be photocopied and distributed or posted. Additional copies are available on the Internet at **www.carlsbadca.gov/water.**

Carlsbad Municipal Water District
5950 El Camino Real, Carlsbad, CA 92008
Hours: Monday through Friday, 8 a.m. to 5 p.m.
760-438-2722 ■ water@carlsbadca.gov

Additional sources for water quality information:

San Diego County Water Authority
858-522-6600 ■ www.sdcwa.org

Metropolitan Water District of Southern California
800-CALL-MWD (225-5693) ■ www.mwdh2o.com

California Department of Public Health
Division of Drinking Water & Environmental Management
619-525-4159 ■ www.cdph.ca.gov

U.S. Environmental Protection Agency
Office of Ground Water & Drinking Water
Safe Drinking Water Hotline 800-426-4791
www.epa.gov/safewater/hfacts.html

2010 Water Quality Analysis

Metropolitan Water District of Southern California and the San Diego County Water Authority

CARLSBAD Municipal Water District

Parameter	Units	State or Federal MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	Range Average	Treatment Plant Effluent		Skinner Plant	Twin Oaks Plant Range Average	Twin Oaks Valley Plant	Major Sources in Drinking Water
Percent State					Range			3 - 36	Range	NA	
Project Water	%	NA	NA	NA	Average			24	Average	NA	
PRIMARY STANDARDS--Mandatory Health-Related Standards											
CLARITY											
Combined Filter	NTU	0.3			Highest			0.05	Range	0.014-0.661	
Effluent Turbidity	NTU								Average	0.029	Soil runoff
	%	95 (a)	NA	NA	% < 0.3			100	% < 0.1	99.97	
MICROBIOLOGICAL											
Total Coliform					Range	Distribution System-wide:		ND - 0.3	Range	ND	
Bacteria (b)	%	5.0	(0)	NA	Average	Distribution System-wide:		0.1	Average	ND	Naturally present in the environment
Total Coliform					Range	ND	(Local)				
Bacteria (b) (Local Sampling)					Average	ND	(Local)				Naturally present in the environment
Heterotrophic Plate Count					Range	Distribution System-wide:		TT	Range	NA	
(HPC) (d)	CFU/mL	TT	NA	NA	Average	Distribution System-wide:		TT	Average	NA	Naturally present in the environment
Semi-Volatile Organic Compounds											
					Range			TT	Range	TT	
Acrylamide	NA	TT	(0)	NA	Average			TT	Average	TT	Water treatment chemical impurities
					Range			TT	Range	TT	
Epichlorohydrin	NA	TT	(0)	NA	Average			TT	Average	TT	Water treatment chemical impurities
INORGANIC CHEMICALS											
					Range			ND	Single		Natural deposits erosion, glass and electronics
Arsenic	ppb	10	0.004	2	Highest RAA			ND	Sample	1.9	production wastes
					Range			ND - 120	Single		Oil and metal refineries discharge;
Barium	ppb	1,000	2,000	100	Average			110	Sample	94	natural deposits erosion
					Range	ND - 0.37	(Local)				
Copper (Local 2009 Samples 34 Sites)	ppm	AL = 1.3	0.3	0.05	90%ile	0.25	(Local)				(g)
				Control Range				0.7 - 1.3		0.7 - 1.3	
				Optimal Fluoride Level				0.8		0.8	
Fluoride (h)					Range			0.6 - 1.0	Range	0.55 - 0.97	Water additive for dental health
Treatment-related	ppm	2.0	1	0.1	Average			0.8	Average	0.8	
					Range	ND - 0.006	(Local)				
Lead (Local 2009 Samples 34 Sites)	ppb	AL = 15	0.2	5	90%ile	ND	(Local)				(g)
					Range			ND	Range	ND - 0.61	Runoff and leaching from fertilizer use; septic
Nitrate (as N) (i)	ppm	10	10	0.4	Highest RAA			ND	Average	0.3	tank and sewage; natural deposits erosion
RADIOLOGICALS (k)											
Gross Alpha					Range			3.3 - 4.3	Range	ND	
Particle Activity	pCi/L	15	(0)	3	Average			3.6	Average	ND	Erosion of natural deposits
Gross Beta					Range			ND - 8.8	Range	ND - 4.2	
Particle Activity (l)	pCi/L	50	(0)	4	Average			ND	Average	1.7	Decay of natural and man-made deposits
					Range			ND	Range	ND - 0.71	
Strontium-90	pCi/L	8	0.35	2	Average			ND	Average	0.12	Decay of natural and man-made deposits
					Range			2.3 - 2.7	Range	2.5 - 4.1	
Uranium	pCi/L	20	0.43	1	Average			2.5	Average	3.3	Erosion of natural deposits
DISINFECTION BY-PRODUCTS, DISINFECTANT RESIDUALS, AND DISINFECTION BY-PRODUCTS PRECURSORS (n)											
Total Trihalomethanes					Range	27 - 67	(Local)				
(TTHM) (Local Samples)	ppb	80	NA	1	Highest RAA	44.5	(Local)				By-product of drinking water chlorination
Total Trihalomethanes					Range			20 - 45	Range	22 - 51	
(TTHM) (o)	ppb	80	NA	1	Average			30	Average	35	By-product of drinking water chlorination
Total Trihalomethanes					Range	Distribution System-wide:		12 - 86			
(TTHM) (o)	ppb	80	NA	1	Highest RAA	Distribution System-wide:		41			By-product of drinking water chlorination
Haloacetic Acids (five)					Range	6.2 - 17	(Local)				
(HAA5) (Local Samples)	ppb	60	NA	1	Highest RAA	17.3	(Local)				By-product of drinking water chlorination
Haloacetic Acids (five)					Range			9.3 - 18	Range	ND - 7.4	
(HAA5) (p)	ppb	60	NA	1	Average			12	Average	2.9	By-product of drinking water chlorination
Haloacetic Acids (five)					Range	Distribution System-wide:		1.6 - 38			
(HAA5) (p)	ppb	60	NA	1	Highest RAA	Distribution System-wide:		13			By-product of drinking water chlorination
					Range	Distribution System-wide:		1.2 - 2.9			
Total Chlorine Residual	ppm	[4.0]	[4.0]	NA	Highest RAA	Distribution System-wide:		2.3			Drinking water disinfectant added for treatment
					Range			ND - 6.1	Range	ND - 5.5	
Bromate (q)	ppb	10	0.1	5.0	Highest RAA			NA	Average	ND	By-product of drinking water ozonation
DBP Precursors Control					Range			TT	Range	TT	
(TOC)	ppm	TT	NA	0.30	Average			TT	Average	TT	Various natural and man-made sources
SECONDARY STANDARDS--Aesthetic Standards											
					Range			88 - 98	Single		Runoff/leaching from natural deposits;
Chloride	ppm	500	NA	NA	Highest RAA			96	Sample	97	seawater influence
					Range			1	Range	ND - 3.0	
Color	Units	15	NA	NA	Highest RAA			1	Average	ND	Naturally-occurring organic materials
					Range			ND	Range	ND - 2.4	
Manganese	ppb	50	NL = 500	20	Average			ND	Average	ND	Leaching from natural deposits
					Range			19 - 35	Range	ND	
Odor Threshold (r)	TON	3	NA	1	Average			25	Average	ND	Naturally-occurring organic materials
					Range			720 - 1,000	Single		Substances that form ions in water;

Abbreviations

AI	Aggressiveness Index
AL	Action Level
CFU	Colony-Forming Units
DBP	Disinfection By-Products
DLR	Detection Limits for purposes of Reporting
MBAS	Methylene Blue Active Substances
MCL	Maximum Contaminant Level
MCLG	Maximum Contaminant Level Goal
MFL	Million Fibers per Liter
MRDL	Maximum Residual Disinfectant Level
MRDLG	Maximum Residual Disinfectant Level Goal
N	Nitrogen
NA	Not Applicable
ND	Not Detected
NL	Notification Level
NTU	Nephelometric Turbidity Units
pCi/L	picoCuries per Liter
PHG	Public Health Goal
ppb	parts per billion or micrograms per liter (µg/L)
ppm	parts per million or milligrams per liter (mg/L)
ppq	parts per quadrillion or picograms per liter (pg/L)
ppt	parts per trillion or nanograms per liter (ng/L)
RAA	Running Annual Average
SI	Saturation Index (Langelier)
TOC	Total Organic Carbon
TON	Threshold Odor Number
TT	Treatment Technique
µS/cm	microSiemen per centimeter; or micromho per centimeter (µmho/cm)

Footnotes

(a) The turbidity level of the filtered water shall be less than or equal to 0.3 NTU in 95% of the measurements taken each month and shall not exceed 1 NTU at any time. Turbidity, a measure of the cloudiness of the water, is an indicator of treatment performance. The averages and ranges of turbidity shown in the Secondary Standards were based on the treatment plant effluent.

(b) Total coliform MCLs: No more than 5.0% of the monthly samples may be total coliform-positive. Compliance is based on the combined distribution system sampling from all the treatment plants. In 2010, 7727 samples were analyzed and eight samples were positive for total coliforms. The MCL was not violated.

(c) E. coli MCL: The occurrence of two consecutive total coliform-positive samples, one of which contains E. coli, constitutes an acute MCL violation. The MCL was not violated.

(d) All distribution system samples collected had detectable total chlorine residuals and no HPC was required. HPC reporting level is 1 CFU/mL.

(e) Aluminum, copper, MTBE, and thiobencarb have both primary and secondary standards.

(f) MTBE reporting level is 0.5 ppb.

(g) Lead and copper are regulated as a Treatment Technique under the Lead and Copper Rule, which requires water samples to be collected at the consumers' tap. If action levels are exceeded in more than 10% of the consumer tap samples, water systems must take steps to reduce these contaminants.

(h) Metropolitan was in compliance with all provisions of the State's Fluoridation System Requirements.

Specific Conductance	µS/cm	1,600	NA	NA	Highest RAA			940	Sample	880	seawater influence
					Range			160 - 240	Single		Runoff/leaching from natural deposits;
Sulfate	ppm	500	NA	0.5	Highest RAA			210	Sample	200	industrial wastes
Total Dissolved Solids					Range			480 - 610	Single		Runoff/leaching from natural deposits;
(TDS)	ppm	1,000	NA	NA	Highest RAA			560	Sample	530	seawater influence
					Range			0.03 - 0.06	NA		
Turbidity (a)	NTU	5	NA	NA	Highest RAA			0.05	NA		Soil runoff
FEDERAL UNREGULATED CONTAMINANTS MONITORING RULE (UCMR2) (s)											
List 2 - Screening Survey											
N-Nitrosodimethylamine					Range			ND - 0.004	Single		By-product of drinking water chloramination;
(NDMA)	ppb	NA	NA	0.002	Average			ND	Sample	ND	industrial processes
OTHER PARAMETERS											
MICROBIOLOGICAL											
					Range			ND - 1	Range	0 - 10	
HPC (d)	CFU/mL	TT	NA	NA	Average			ND	Average	0.6	Naturally present in the environment
CHEMICAL											
					Range			91 - 130	Single		
Alkalinity	ppm	NA	NA	NA	Highest RAA			110	Sample	110	
					Range			120 - 130	Single		Runoff/leaching from natural deposits;
Boron	ppb	NL = 1,000	NA	100	Average			120	Sample	140	industrial wastes
					Range			52 - 70	Single		
Calcium	ppm	NA	NA	NA	Highest RAA			64	Sample	56	
					Range			47	Range	180 - 340	By-product of drinking water chlorination;
Chlorate	ppb	NL = 800	NA	20	Range	Distribution System-wide:		26 - 110	Average	263	industrial processes
					Range			0.08 - 0.23	Single		Industrial waste discharge; could be
Chromium VI (t)	ppb	NA	NA	0.03	Highest RAA			0.16	Sample	ND	naturally present as well
Corrosivity (u)					Range			12.0 - 12.4	Single		Elemental balance in water; affected
(as Aggressiveness Index)	AI	NA	NA	NA	Average			12.2	Sample	12	by temperature, other factors
Corrosivity (v)					Range			0.20 - 0.51	Single		Elemental balance in water; affected
(as Saturation Index)	SI	NA	NA	NA	Average			0.31	Sample	0.36	by temperature, other factors
					Range			190 - 300	Single		
Hardness	ppm	NA	NA	NA	Highest RAA			260	Sample	230	
					Range			21 - 28	Single		
Magnesium	ppm	NA	NA	NA	Highest RAA			25	Sample	22	
	pH				Range			7.7 - 8.3	Single		
pH	Units	NA	NA	NA	Average			7.9	Sample	7.6	
					Range			3.9 - 4.8	Single		
Potassium	ppm	NA	NA	NA	Highest RAA			4.7	Sample	4	
					Range			80 - 100	Single		
Sodium	ppm	NA	NA	NA	Highest RAA			91	Sample	85	
					Range			1.8 - 2.3	Range	2.0 - 2.4	
TOC	ppm	TT	NA	0.30	Highest RAA			2.1	Average	2.2	Various natural and man-made sources
N-Nitrosodimethylamine					Range			ND - 0.002	Range	ND	By-product of drinking water chloramination;
(NDMA) (w)	ppb	NL = 0.01	0.003	0.002	Range	Distribution System-wide:		ND - 0.01	Average	ND	industrial processes

How to read this report

As you read the water quality tables in this report, compare the level of constituents found in Carlsbad Municipal Water District's water in the "Skinner Plant" and "Twin Oaks Valley Plant" columns with the standards set for them in the MCL and PHG columns. The Carlsbad Municipal Water District met all drinking water standards in 2010.

The following are key terms to help you understand the standards we used to measure drinking water safety.

Maximum Contaminant Level (MCL) The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG) The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.

Public Health Goal (PHG) The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.

Maximum Residual Disinfectant Level (MRDL) The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Primary Drinking Water Standard (PDWS) MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Treatment Technique A required process intended to reduce the level of a contaminant in drinking water.

Regulatory Action Level The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

This report can be downloaded from www.carlsbadca.gov/water

(i) State MCL is 45 mg/L as nitrate, which is the equivalent of 10 mg/L as N.

(j) Perchlorate reporting level is 2 ppb.

(k) Data collected (triennially) from four consecutive quarters of monitoring in 2008.

(l) The gross beta particle activity MCL is 4 millirem/year annual dose equivalent to the total body or any internal organ. The screening level is 50 pCi/L.

(m) State MCL is 5 pCi/L for combined Radium-226 and -228.

(n) Metropolitan was in compliance with all provisions of the Stage 1 Disinfectants/Disinfection By-Products (D/DBP) Rule. Compliance was based on the RAA.

(o) Reporting level is 0.5 ppb for each of the following: bromodichloromethane, bromoform, chloroform, and dibromochloromethane.

(p) DLR is 1.0 ppb for each of the following: dichloroacetic acid, trichloroacetic acid, monobromoacetic acid, and dibromoacetic acid; and 2.0 ppb for monochloroacetic acid.

(q) Bromate reporting level is 3 ppb. The Skinner water treatment plant began using ozone as the primary disinfectant in October 2010. The bromate RAA will be calculated after four quarters of data have been collected.

(r) Data for Skinner based on the State-required quarterly monitoring following MCL exceedance. The quarterly samples reported to the State were 35 TON in January, 20 TON in April, 19 TON in July, and 24 TON in October. Metropolitan utilizes a flavor-profile analysis (FPA) method that can detect odor occurrences more accurately and found the FPA samples from this location acceptable. No taste and odor event was observed and no complaints were received during the period.

(s) Data collected from February 2009 to August 2009. Minimum reporting levels are as stipulated in the Federal UCMR 2. List 1 - Assessment Monitoring consists of 10 chemical contaminants for which standard analytical methods were available. List 2 - Screening Survey consists of 15 contaminants for which new analytical methods were used. All analysis conducted by contract laboratories. Values listed in State DLR column are Federal minimum reporting levels.

(t) Chromium VI reporting level is 0.03 ppb.

(u) AI <10.0 = Highly aggressive and very corrosive water
AI > 12.0 = Non-aggressive water
AI (10.0 - 11.9) = Moderately aggressive water

(v) Positive SI index = non-corrosive; tendency to precipitate and/or deposit scale on pipes Negative SI index = corrosive; tendency to dissolve calcium carbonate

(w) Analysis conducted by Metropolitan's Water Quality Laboratory using Standard Methods 6450B.

Required information for lead

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Carlsbad Municipal Water District is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at **www.epa.gov/safewater/lead**.